



**City of Santa Barbara**  
Parks and Recreation Department

**Memorandum**

**DATE:** December 14, 2011

**TO:** Creeks Restoration/Water Quality Improvement Program  
Citizen Advisory Committee

**FROM:** Jill Murray, Water Quality Research Coordinator

**SUBJECT:** **SOURCE TRACKING PROTOCOL PROJECT UPDATE AND  
PROPOSED MODIFICATION TO FISCAL YEAR 2012  
RESEARCH AND MONITORING PLAN**

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**COMMITTEE DIRECTION – FOR ACTION**

That the Committee receive an update on the Source Tracking Protocol Development Project and concur with the staff recommendation to postpone some portions of the Fiscal Year 2012 Research and Monitoring Plan (FY12 Research Plan).

**DISCUSSION**

**Background**

In June 2011, the Committee received a mid-year update on Fiscal Year 2011 sampling results, with a focus on sediment quality, storm monitoring, street slurry sealing, and microbial source tracking, along with the recommended FY12 Research Plan. The committee concurred with the staff recommendation to implement the FY12 Research Plan, which includes a Source Tracking/Illicit Discharge Detection element.

The Source Tracking/Illicit Discharge Detection element includes the Source Tracking Protocol Development Project, which is funded by the State Water Board's Clean Beaches Initiative Proposition 50 Grant Program. The project has been conducted in partnership with Dr. Patricia Holden at the University of California Santa Barbara. Due to remaining work that follows up on new information learned during the research, Creeks Division staff proposes to focus research and monitoring efforts through FY12 on completing the Source Tracking Protocol Development Project, which could necessitate postponing, or hiring temporary hourly assistance for, some efforts in the FY12 Research Plan.

## Project Rationale

The Creeks Division has worked with Dr. Holden to identify potential sources and routes of water contamination in Santa Barbara creeks for several years. The research suggests some markers for human waste in creeks, lagoons, and the surf zone. Unfortunately, the physical sources of human contamination had remained elusive. The goal of the Source Tracking Protocol Development Project is to test methods for discovering where, when, and how human waste is transported to creeks and beaches. The value of the research is that it will support City and state-wide efforts to detect and eliminate sources of human fecal pollution in creeks and the coastal ocean, thereby decreasing risks to human health from swimming. The Project will also provide protocols for coastal water quality managers throughout California to use for conducting source investigations regarding beach warnings due to exceedances of indicator bacteria standards.

## Work Completed

The scope of work for the project has focused thus far on testing various source tracking tools. The project has tested methods of detection that combine microbial source tracking tools such as DNA testing, geographic information system (GIS) techniques, and more traditional illicit discharge detection and elimination (IDDE) methods (including smoke, camera, and dye). A combination of GIS modeling, dye studies and closed circuit televising (CCTV) of storm drains proved to be an effective combination for investigating contamination.

## Remaining Work

Dye studies and CCTV work will be utilized to conduct further tests on potential areas where contamination could be entering into the creeks systems. In addition, a report for coastal managers and a final grant report will be completed. A temporary Creeks Resources Technician, Josh Bader, has been hired to assist with remaining GIS work on the project.

## Timeline

Dye studies and CCTV work will be completed by March 31, 2012. Reports will be completed by May 31, 2012.

## Work to be Postponed

Efforts in the FY12 Research Plan to be postponed include studies on eutrophication, slurry sealing, and catch basin cleaning, as well as the development of field test kits for enforcement investigations. Quarterly water quality reports will also be postponed and FY12 sampling results will be described in one FY12 Annual Water Quality Report. A water quality intern, Donovan Maccarone, has been hired to assist with some of the work that is usually conducted by Creeks Division staff, including sediment testing, creek walks, and storm sampling.

Budget

Grant funds will be used for all of the remaining source tracking work, including staff time for the Creeks Resources Technician and the CCTV contract . The funds remaining in the grant budget total \$129,660.

cc:     Cameron Benson, Creeks Restoration/Clean Water Manager  
          Jill E. Zachary, Assistant Parks and Recreation Director